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ABSTRACT

Both urine alarms and dry bed training (DBT) have been used in the treatment of enuresis. To investigate the acceptability of the most recent version of DBT and urine alarm training, two studies were conducted. In the first study, the evaluation of 42 parents, who had participated in an 8-week program of either DBT or urine alarm training, were compared. In the second study, 84 nonpsychology undergraduate students evaluated the two treatment approaches independently of their implementation. The students also evaluated the source of the program, i.e., self-help manual or professional counselor. In both studies subjects completed the Treatment Evaluation Inventory and the Semantic Differential Scales. An analysis of the results showed no support for the view that DBT is a more acceptable or more effective treatment for enuresis than the traditional urine alarm. On the contrary, parents who had actually implemented the treatments rated the urine alarm procedure more favorably than DBT on both the Treatment Evaluaton Inventory and the Evaluative dimension of the Semantic Differential. Further, the two treatments were considered equally acceptable by those who had not implemented them. Finally, both treatments were considered to be more acceptable when offered by a clinic then when presented as self-help manuals. These findings suggest that dry bed training may not be the best treatment for enuresis. (Author/BL)

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The social validation of behavioral treatments for bedwetting

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Abstract

Two studies were conducted to examine the acceptability of dry bed training and urine alarm training as treatments for nocturnal enuresis. The first experiment showed that parents who had implemented urine alarm training rated the treatment program more favorably than those who had carried out dry bed training. In the second study, the two treatments were considered equally acceptable by those who had not implemented them. Moreover, both treatments were considered to be more acceptable when offered by a clinic than when presented as self-help manuals. These results are discussed in terms of the claim that dry bed training is the treatment of choice for enuresis.

The use of the urine alarm (Mowrer & Mowrer, 1938) has recently been challenged as the treatment of choice for nocturnal enuresis. In a series of papers, Azrin has argued that his operant Dry Bed Training (DBT) procedure is both more effective and more acceptable to consumers than traditional urine alarm training as a treatment for bedwetting (Azrin, Sneed & Foxx, 1974; Azrin & Thienes, 1978; Azrin, Thienes-Hontos & Besalel-Azrin, 1979; Besalel, Azrin, Thienes-Hontos & McMorrow, 1980). Both of these claims are, however, open to question.

While Azrin and his colleagues have presented considerable data to show that DBT is more effective than urine alarm training, it should be noted that their success rate for urine alarm training is much lower than the average typically obtained (75%, Doleys, 1977) and that DBT is not consistently found to be more effective than urine alarm training by other investigators (e.g., Bollard & Nettlebeck, 1981; Caceres, 1982). Moreover, there does not appear to be any data comparing more recent versions of DBT with the urine alarm procedure. The other major basis for the proposed superiority of DBT, viz., its greater acceptability, is even more problematic. Indeed, concern for the acceptability of DBT has guided its evolution (e.g., omitting the use of the urine alarm; replacing all night intensive training on the first day with late afternoon and early evening training Azrin & Thienes, 1978; using parents rather than counselors for intensive training Azrin et al., 1979) yet there has been no systematic research on this issue.[1]

Two studies were therefore conducted to investigate the acceptability of the most recent version of DBT (Azrin & Thienes, 1978; Azrin & Besalal, 1979) and urine alarm training. The first compared evaluations of parents

who had participated in an eight week training program which consisted of either DBT or urine alarm training. The second, evaluated responses to the treatments independently of their implementation.

EXPERIMENT 1

Method

Participants

Participants comprised 42 parents who had requested treatment for their enuretic children through a university based psychological center. Parents were aware of the treatment through an advertisement in a local newspaper. Admission to the treatment program required the child (i) to be between six and fourteen years, (ii) to wet his/her bed at least three times per week and (iii) to undergo a urinalysis to rule out physiological causes for their bedwetting. A standard $45.00 fee was charged for the treatment. Two to three weeks following a screening interview, at least one parent and child returned to the clinic to be instructed in the treatment procedure. Families were randomly assigned to DBT (without a urine alarm) or urine alarm training (the groups did not differ in terms of number of wet nights during a two week baseline, the child's age, years of parent education, family income or number of children in the family: DBT = 9.2 nights, 9.1 years, 13.8 years, $25,600, 2.9 children; Urine Alarm = 10.5 nights, 8.7 years, 14.2 years, $26,300, 2.6 children respectively). In each treatment families rehearsed the components of the procedure which they were to implement at home and were given detailed treatment manuals[2]. The treatment was continued for 8 weeks or until 14 consecutive dry nights occurred. At

the end of the treatment program, the alternative training procedure was offered free of charge to parents whose children still wet the bed.

Following the eight week treatment program participants were sent a measure regarding the acceptability of the treatment and a semantic differential scale. The acceptability measure comprised a slightly modified version of the Treatment Evaluation Inventory (Kazdin, 1980a, 1980b). This measure requires participants to rate how acceptable they found the treatment, whether they would recommend the procedure to a friend, the extent to which it caused stress in the family and so forth. The scale was altered slightly to reflect the treatment evaluated in this study.

Bipolar adjectives were selected from the Semantic Differential (Osgood, Suci & Tannenbaum, 1957) and reflected the Evaluative, Potency and Activity dimensions (Kazdin, 1980a,1980b). Five items from each dimension were included. The usefulness of this additional scale lies in the fact that it does not ask specific questions about the treatment and uses a different rating format thus providing a second, distinct assessment device.

Results

In order to examine participants reactions to treatment, simple t-tests were performed comparing the responses of parents in the DBT and urine alarm training groups. A significant difference was found between the groups for responses on the Treatment Evaluation Inventory, $t(40) = 3.85$, $p < .001$, as parents in the urine alarm group ($M = 71.2$; $S.D. = 7.3$) rated the treatment more favorably than those in the DBT ($M = 59.4$; $S.D = 11.6$) group. In regard to the Semantic Differential, the urine alarm group ($M = 15.2$; $S.D. = 5.7$) rated the treatment more favorably than the DBT group,($M = 9.8$; $S.D. = 3.4$) on the Evaluative dimension, $t (40) = 3.62$, $p < .001$. No differences were found on the Activity and Potency dimensions. Finally, three quarters

of the children in the urine alarm group reached the criterion of 14 dry nights as compared to less than half (41%) of the DBT group(Z = 1.82, $p < .07$). Program outcome was not related to the acceptability of the treatment.

EXPERIMENT 2

The first experiment examined the acceptability of DBT and urine alarm training after treatment had occurred. However, the results may reflect differences in the acceptability of the treatments even before they are implemented. The present experiment therefore examined the acceptability of the programs independently of their implementation. The source of the program was also investigated as the acceptability of a treatment may not only reflect its content but the source from which it is obtained.

The source of the treatment program is particularly relevant in the case of enuresis as treatment is available through both professionals and commercially marketed products. Urine alarms sold to the public are usually accompanied by informational pamphlets while a self-help manual has been written for DBT (Azrin & Besalel, 1979). An initial evaluation of the DBT manual shows that parents who use it are successful in eliminating their child's enuresis but that more favorable results are obtained by direct counseling (Besalel et al., 1980). It is quite possible that the source of the treatment (self-help manual versus professional counselor) affects its perceived acceptability which may, in turn, alter important factors such as treatment compliance.

Method

Participants

Eighty four nonpsychology undergraduate students were recruited. Each was randomly assigned to one of the four conditions in a 2 (treatment program) x 2 (source of program) design.

Procedure

Participants were told that they would read a brief description of a child and of a possible means of treating the child's bedwetting. The description comprised the following:

> Tan is an 8 year old boy who wets his bed. He is of average intelligence and attends a local school. A recent visit to the urologist, together with lab tests, revealed that there was no physical cause for Tan's bedwetting. However, Tan continues to wet his bed at least 3 to 5 nights per week.

Following this information was one of two paragraphs in which the source of the program was manipulated. Thus in the self-help condition subjects read:

> A few days ago Tan's parents noticed an advertisement in the newspaper describing a book called "A parent's guide to bedwetting control" written by two psychologists. They bought the book which outlined the following treatment.

In the condition where the program was professionally administered subjects read:

> A few days ago Tan's parents noticed an advertisement in the newspaper describing a bedwetting program run by a psychologist through the Psychological Center at a local University. When they visited the clinic the psychologist outlined the following treatment.

A fairly lengthy description of DBT or urine alarm training followed. The descriptions in fact comprised detailed summaries of the manuals used in the first experiment. Subjects were then asked to complete the Treatment Evaluation Inventory and Semantic Differential scales used in Experiment 1.

Results

The data were analysed by means of separate 2(program: DBT versus urine alarm) x 2(source of program: self-help manual versus clinic) analyses of variance. A main effect regarding the source of the treatment was found for responses on the Treatment Evaluation Inventory, $F(1,80) = 4.5$, $p < .05$. As seen in Table 1, clinic programs ($M = 62.28$; S.D. 19.21) were rated more favorably than nonclinic treatments ($M = 53.5$; S.D. = 19.0). It is noteworthy that this result obtained even though no differences were found between the conditions regarding the program's perceived likelihood of success. No significant effects were found on the dimensions of the Semantic Differential.

Insert Table 1 about here

Discussion

In the present experiments no support was found for the view that DBT is a more acceptable or more effective treatment for enuresis than the traditional urine alarm. On the contrary, parents who had actually implemented the treatments rated the urine alarm procedure more favorably than DBT on both the Treatment Evaluation Inventory and the Evaluative dimension of the Semantic Differential. This slight preference for the urine alarm program most likely results from the implementation of the programs as they were found to be equally acceptable in Experiment 2.

Clinical observations during the course of the study support the above possibility. Parents appeared to have greater difficulty implementing DBT (we received three times as many telephone calls concerning program problems from parents in the DBT condition) because of child noncompliance and because they experienced some of the procedures as overly demanding (e.g., supervising positive practice). Problems of noncompliance arose mainly in the case of children (and some parents) who questioned the necessity of positive practice (especially before bedtime the night following an accident) even though its rationale was repeatedly and clearly explained to them. These experiences parallel these of Caceres (1982) who also found that more parents objected to DBT than urine alarm training and that the urine alarm helped more children become dry. These findings may be due to the fact that DBT is less appropriate for older children as both studies investigated children who tended, on average, to be older than those used in Azrin's research.

Given the above experience, it is also possible that the data obtained may simply reflect differences in the extent to which families complied with treatment procedures and the extent to which they considered the treatment a success. Supplementary data do not support this interpretation. No relationship was found between the evaluation of the treatment and whether it was perceived to be successful ($\underline{r}(40) = .06$, $\underline{p} > .10$). Moreover, parents in the two groups did not differ in their reported compliance with the program ($\underline{t}$ (40) = 1.34, $\underline{p} > .10$). While these data are suggestive, future research should utilize more direct measures of compliance before any definitive conclusions can be drawn.

The second experiment showed that the acceptability of a treatment can be affected by its source. A program was considered more acceptable when

offered by a clinic than when presented as a self-help manual. This finding is consistent with research on self-help manuals which shows that clients are more confident about a treatment when it is professionally supervised than when it is implemented in a self-help format, even though the treatment formats are equally efficacious (Baker, 1980). It is worth noting, however, that major advantages of bibliotherapy, such as greater accessability and economy, were unlikely to have been considered in this experiment as subjects were not seeking treatment. It therefore remains to be determined whether such factors might outweigh the differences found in Experiment 2.

In conclusion, the present data do not support the choice of DBT as the preferred treatment for enuresis on the basis of its greater acceptability. In the absence of any further data on this issue, it seems that the justification for DBT must lie in its superior efficacy as a treatment of enuresis. However, the greater efficacy of DBT over urine alarm training remains moot.

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Footnotes

1. Despite frequent claims that parents object to using the urine alarm (e.g., Azrin & Besalel, 1979 p. 30; Besalel et al., 1980, p. 358) or drop out of treatment because of it (Azrin & Thienes, 1978, p. 343; Azrin et al., 1979, p. 14) the only data cited to support these contentions is equivocal. Azrin and Thienes (1978) found that ninety percent of parents who were assigned to the urine alarm procedure changed to DBT when given this option after two weeks of treatment. However, by informing parents of this choice before training began it is quite possible that the experimenters created the expectation that if a cure did not occur in two weeks the treatment would have failed, an expectation which is contrary to what is known about the urine alarm procedure. In addition, more direct experimenter demands cannot be ruled out as an explanation for this result as a double blind procedure was not used.

2. Copies of all materials used in the two experiments are available from the first author.

Table 1 Mean scores on the Treatment Evaluation Inventory (TEI) and Evaluative, Potency and Activity dimensions of the Semantic Differential

Dependent variable	Treatment			
	DBT		Urine alarm	
	Clinic	Manual	Clinic	Manual
TEI	61.4	55.9	63.1	51.2
Evaluative	21.7	21.1	20.1	23.7
Potency	14.7	15.8	16.4	15.8
Activity	16.2	16.1	16.1	17.4